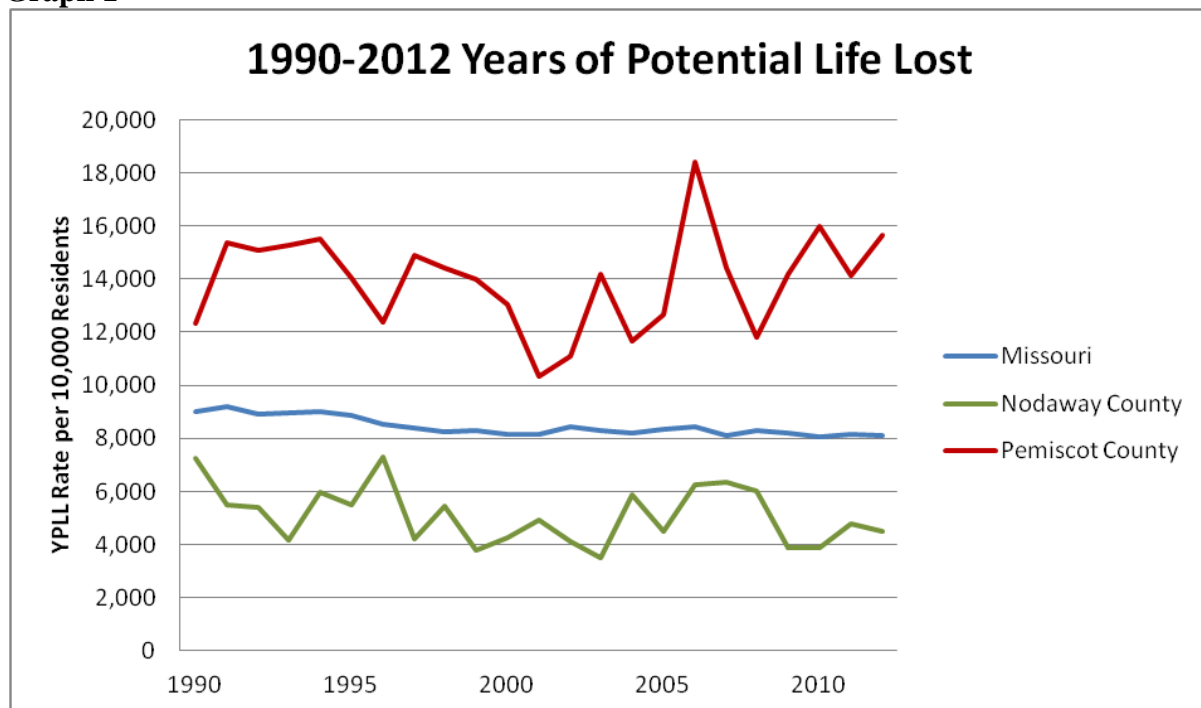


As mentioned in the July 2014 newsletter, which is posted on the DHSS website at <http://health.mo.gov/data/mica/MICA/pdf/newsletter10.pdf>, the Bureau of Health Care Analysis and Data Dissemination (BHCADD) recently put together a new Years of Potential Life Lost (YPLL) web page. The YPLL statistic “involves estimating the average time a person would have lived had he or she not died prematurely.”<sup>1</sup> It makes the assumption that anyone dying before age 75 is considered to have died prematurely. The calculation gives more weight to persons who die at a young age compared to those who die closer to the age 75 cutoff. Thus, it is a popular measure for quantifying “social and economic loss owing to premature death and it has been promoted to emphasize specific causes of death affecting younger age groups.”<sup>2</sup> Examples of causes of death with high mortality rates for younger populations include motor vehicle accidents and homicides.

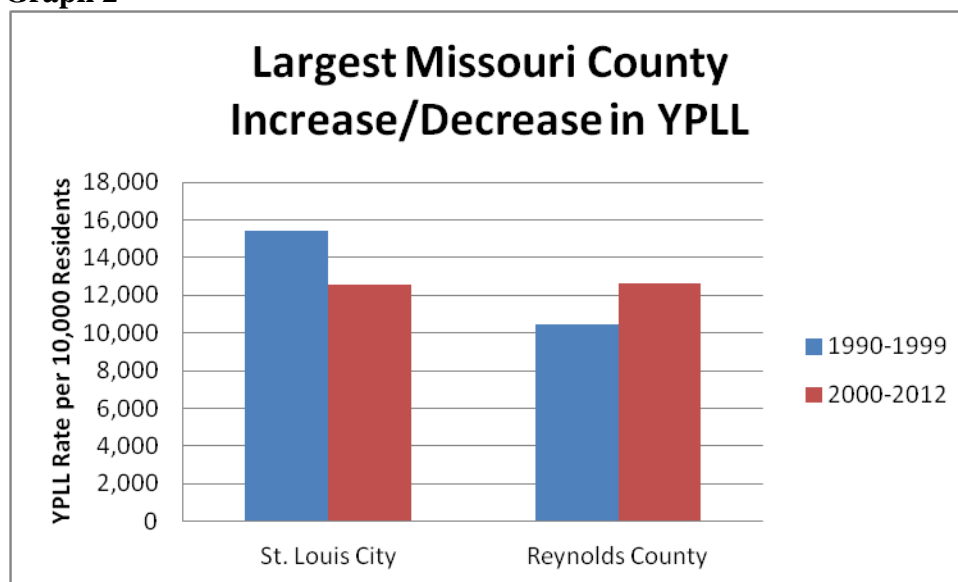
Using a dataset available for download from the DHSS website (<http://health.mo.gov/data/ypll/>), public health analysts can track changes in YPLL over the 1990-2012 time period. Graph 1 displays YPLL rates for Missouri and two selected counties, Nodaway and Pemiscot. The state overall (represented by the blue line on the graph) experienced a small but steady decline in the YPLL rate during this time period. The 2012 Missouri rate of 8,109 was roughly 10 percent lower than the 1990 rate of 9,030. (All rates referenced in this article are per 10,000 residents.) Pemiscot and Nodaway were selected because they had the highest and lowest average annual YPLL rates, respectively. Pemiscot County (located in the Bootheel) had an average annual rate of 13,952, which was 63 percent higher than the state average. In contrast, Nodaway County in Northwest Missouri had the lowest average annual rate at 5,106 (40 percent lower than the state average).

**Graph 1**



The YPLL dataset can also be used to determine which counties changed the most in terms of YPLL rates between 1990 and 2012 (Graph 2). Comparing the averages of the annual rates for the 1990-1999 time period to the averages of the annual rates for the 2000-2012 time period reveals that St. Louis City experienced the largest percentage improvement, dropping from an average rate of 15,408 in the 1990's to 12,571 in the 2000's, a decline of 18.5 percent. Reynolds County experienced the largest percentage increase between the two time periods, rising from an average of 10,447 years of potential life lost to 12,642, an increase of 21 percent.

**Graph 2**



Using the Years Life Lost worksheet and instructions included on the YPLL homepage, users can calculate customized YPLL rates for different geographies and for specific diseases. For Table 1 below, BHCADD analysts accessed the Death MICA to create a list of 2010-2012 leading causes of death in Missouri and then used the Years Life Lost worksheet to determine cause of death categories that most impacted 2010-2012 YPLL rates. Death counts by cause and the percentage each cause contributed to total deaths are listed on the left side of Table 1 in rank order. Years of potential life lost by cause and the percentage each cause contributed to total YPLL are listed on the right side of Table 1. Causes on the YPLL side of the table are formatted in red if the YPLL percentage is greater than the death counts percentage for that cause. They are formatted in blue if the YPLL percentage is lower than the death counts percentage.

This exercise illustrates the greater impact of younger deaths on the YPLL rankings. Causes of death from which young people are more likely to die rank higher in the YPLL category than in the death counts category. For example, non-motor vehicle injuries/adverse effects account for only 3.9% of total deaths but 10.4% of total YPLL. Other causes with higher YPLL percentages compared to death count percentages include birth defects/early infancy issues (6.1% of total YPLL but not a leading cause of death), motor vehicle injuries (6.1% of total YPLL but not a leading cause of death), suicide (5.7% of YPLL but only 1.6% of total deaths), and homicide (4.0% of total YPLL but not a leading cause of death).

Conversely, causes of death that more typically affect older people rank higher in the death counts category than in the YPLL category. The biggest difference on the table is attributed to heart disease, which accounts for 24.4% of total deaths but only 16.7% of total YPLL. Other causes with lower YPLL percentages compared to death count percentages include cancer (23.0% of total deaths but only 21.8% of total YPLL), chronic lower respiratory diseases (6.5% of total deaths but only 3.6% of total YPLL), stroke (5.3% of total deaths but only 2.5% of total YPLL), and diabetes (2.5% of total deaths compared to 2.4% of total YPLL).

**Table 1**

State of Missouri: 2010-2012							
Death Counts for Leading Causes of Death*				Years of Potential Life Lost Rates (per 100,000 population)			
1	Heart Disease	41,096	24.7%	1	Cancer	1,768	21.8%
2	Cancer	37,803	22.7%	2	Heart Disease	1,352	16.7%
3	Chronic Lower Respiratory Diseases	10,667	6.4%	3	Non-Motor Vehicle Injuries/Adverse Effects	844	10.4%
4	Stroke	8,939	5.4%	4	Birth Defects/Early Infancy Conditions	496	6.1%
5	Non-Motor Vehicle Injuries/Adverse Effects	6,643	4.0%	5	Motor Vehicle Injuries	492	6.1%
6	Alzheimer's Disease	5,746	3.5%	6	Suicide	462	5.7%
7	Diabetes	4,215	2.5%	7	Homicide	324	4.0%
8	Kidney Disease	3,803	2.3%	8	Chronic Lower Respiratory Diseases	288	3.6%
9	Pneumonia and Influenza	3,559	2.1%	9	Stroke	206	2.5%
10	Suicide	2,672	1.6%	10	Diabetes	193	2.4%
	All Others	41,293	24.8%		All Others	1681	20.7%

\*Note: This list uses a different set of categories than the National Center for Health Statistics (NCHS) rankable causes available from the Death MICA. Motor Vehicle Injuries were separated from Non-Motor Vehicle Injuries/Adverse Effects (All other accidents and adverse effects in the Death MICA) in order to illustrate the impact of motor vehicle accidents on younger residents. Under NCHS guidelines, Motor Vehicle Injuries and Non-Motor Vehicle Injuries/Adverse Effects would be combined to create the rankable cause of Unintentional Injury. Birth Defects and Early Infancy Conditions have also been combined in this table.

YPLL can be a valuable statistic for better evaluating the health status of a community because it provides a measure of the magnitude of premature death. With the data and resources now available from DHSS, researchers have easier access than ever to YPLL statistics and can also determine which causes are most contributing to YPLL. For those interested in learning more about how to calculate YPLL rates, a section on this material is included in BHCADD's *Health Data Analysis* course (the second course in the *MICA Health Data Training Series*).

## References:

<sup>1</sup> Dranger, E., and Remington, P. (2004, October). *YPLL: A Summary Measure of Premature Mortality Used in Measuring the Health of Communities*. Wisconsin Public Health and Health Policy Institute Issue Brief. Retrieved 2014, April 11, from University of Wisconsin Population Health Institute site: <http://uwphi.pophealth.wisc.edu/publications/issue-briefs/issueBriefv05n07.pdf>.

<sup>2</sup> Gardner, J.W., and Sanborn, J. S. (1990, July). Years of Potential Life Lost (YPLL) – What Does It Measure? [Abstract]. *Epidemiology* 1(4), 322-329. Retrieved 2010, May 11, from <http://www.ncbi.nlm.nih.gov/pubmed/2083312>.

## MICA Training Handbooks Posted

The most recent edition of the *Introduction to Profiles and MICA* handbook has been posted on the DHSS website at <http://www.health.mo.gov/data/mica/MICA/CHAIPTraining.html>. In addition, the *Health Data Analysis* handbook is now available for the first time as a link from the main User Handbook site referenced above. Each handbook can be downloaded in its entirety or in separate sections. As Andy likes to say, “They make excellent gifts.”

## Public Health Spotlight



Belinda Heimericks, Section Administrator for Community Health and Chronic Disease Prevention at the Missouri Department of Health and Senior Services, is the focus of our Public Health Spotlight this issue, and boy, has she been a busy lady during her career! She has worked in several different areas of health, all of which have impacted and influenced what she’s doing today. Belinda applies the old adage of “never say never” to her career, because in nursing school she just knew two fields she would never enjoy would be psychiatric nursing and nursing management. Yet when she describes her career as divided into

thirds, she reveals that the first third was dedicated to Psychiatric Nursing, and she received a Master’s degree in Community Mental Health Nursing! The second third focused on – you guessed it – Nursing Association Management. During these parts of her career, Belinda served as the Executive Director of the Missouri Nursing Association (MONA) and was both a founding member and President of the Missouri Institute for Community Health (MICH).

The final third of Belinda’s career has focused on public health. After meeting her goal of serving as Executive Director of MONA for fifteen years, Belinda wanted to expand her horizons and started making inquiries to DHSS as to which positions might best fit her expertise. In 2006, she was hired as the Bureau Chief for Cancer and Chronic Disease and was later promoted to Section Administrator. Because February is American Heart Month, it seems appropriate to highlight one of Belinda’s favorite projects here at DHSS, the MAP (Missouri Actions to Prevent Chronic Disease and Reduce Risk Factors) program, which began in 2012

with the goal of decreasing the burden of chronic diseases (including heart disease) in Missouri communities. MAP is a grant-funded program for which the Department has partnered with the Missouri Primary Care Association. It involves system-level interventions that address diabetes, heart disease, obesity prevention, and school health, just to name a few focus areas. Belinda believes that a systems-level approach provides the “broadest reach,” impacting the greatest number of individuals in meaningful ways.

The MAP and other programs managed by Belinda use public health data in order to complete surveillance practices and goals and often rely heavily on community-level survey data. This type of data is what Belinda describes as “critical” and a “game changer,” allowing program staff to track how they’re “moving the needle” related to chronic disease prevention. Tracking the impact of interventions for chronic disease is particularly difficult because of the long-ranging effects of the programs and the time it can take for them to affect health. However, Belinda can look at more granular data, like the frequency of A1C testing or tobacco use rates to determine whether smaller scale actions that could eventually prevent or delay chronic health conditions are improving and which populations have the greatest burden.

Outside the workplace, Belinda enjoys several hobbies, including reading and staying active. She says that her athleticism might be surprising to some, but physical activity has always been an important part of her life. As a child and teenager she was an avid horseback rider, riding at least an hour each day after school. During the summers she enjoyed swimming and water skiing, and in the winter she ice skated frequently. Belinda related her favorite winter-time memory, which involves physical activity and mirrors a scene from the holiday film *National Lampoon’s Christmas Vacation*. In the 1960s, her family was sledding on their farm when her father had quite the high-flying experience. While going down a pond bank on a saucer sled he ran smack into a young (and, thankfully, flexible) cedar tree which propelled him and the sled into the air. He landed some distance away, to the cheers of his family! While most of Belinda’s exercises have not been quite that dramatic, she does trace some of her activities, including her years as an aerobics enthusiast during the 1980’s, as the precipitators of a bilateral knee surgery. During her recovery, Belinda kept busy with another favorite activity, knitting, by creating items for her 8 grandchildren, who range in age from 18 months to 12 years old. For those tracking knitting fashions, she mentioned that last year the craze was for “slouchy hats,” but this year requests for “boot cuffs” have been more frequent.

Thanks, Belinda, for serving as our Public Health Spotlight this quarter!

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**Upcoming MICA Trainings**

There are no MICA trainings currently scheduled. Any updates will be posted at <http://health.mo.gov/data/mica/MICA/healthdatatraining.html>. This website also provides descriptions of the training courses as well as the link to our archived *MICA Training Overview Webinar*.

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## **Data Updates**

Several of the Profiles and Data MICAs have been updated since the publication of the last newsletter. They include:

Birth MICA – through 2013

Death MICA – through 2013

Medicaid Records MICA – through December 2014

Population MICA – through 2013

TANF (Temporary Assistance for Needy Families) MICA – through December 2014

Alcohol and Drug Abuse Problems Profile – substance abuse and mental health treatment data through FY2013

Child Health Profile – through 2012

Diabetes Profile – through 2013 (BRFSS, YTS, and YRBSS indicators)

Emergency Room Profile – through 2012

Infant Health – through 2012

Social and Economic Indicators Profile – 5-year estimates updated to 2009-2013

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## **Recent/Upcoming Events**

Although no full-day training sessions took place during the last quarter, Andy and Becca spread the word about MICA at a couple of different events. On December 4, they provided a pre-conference workshop on MICA at the 22<sup>nd</sup> Annual Coordinated School Health Conference in Lake Ozark and had the opportunity to network with attendees during exhibits that evening and the next day. More recently, the two traveled to the University of Missouri-Columbia to provide an overview of MICA to Master of Public Health Students enrolled in a community health assessment course.

BHCADD staff also spent time this quarter learning from others' presentations. On November 19, Andy and Becca attended the Missouri Rural Health Conference in Columbia. Earlier that week, on November 17, most of the Data Dissemination team attended an Epi Grand Round presentation on Evaluation of Missouri's Public Health, Community and Health Care Linkage Pilot Project. Epi Grand Rounds sessions are sponsored several times each year by the DHSS Section of Epidemiology for Public Health Practice, which contains BHCADD, and focus on current epidemiology and/or health data topics of interest. During this presentation, Dr. Shumei Yun from the Chronic Disease and Nutrition Epidemiology Team and Barbara Brendel from the Bureau of Cancer and Chronic Disease Control described a program implemented by ten local public health agencies to combat hypertension. To learn more about the Epi Grand Rounds program or view recordings of past sessions, please visit <http://www.health.mo.gov/information/epigrandrounds/index.php>.



## Q&A

*I like the fact that several of the MICAs include the ability to query data for ZIP Codes, but why are rates not available in the ZIP Code MICAs?*

Rates are not available by ZIP Code due to a lack of population estimates at the ZIP Code level for most years. The basic, or crude, rate calculation in MICA involves dividing the number of events, such as the number of deaths, by the population at risk. The population at risk includes “all those to whom an event could have happened, whether it did or not.”<sup>1</sup> For most of the MICAs, the population at risk is simply the entire population. The Census Bureau generates annual population estimates for states, counties, and select cities, and these estimates are used for the annual state, county, and city rate calculations in MICA. However, the Census Bureau releases ZIP Code population totals only during decennial census years (e.g., 2000, 2010). Thus, there is no denominator to use in ZIP Code rate calculations for intercensal years (e.g., 2001-2009) and only numbers are provided on ZIP Code MICA tables. In recent years, population estimates by ZIP Code have been published through the American Community Survey (ACS) and are available through the Social and Economic Indicators Profile, which links to tables prepared by the Missouri Census Data Center. These population estimates have not been incorporated into MICA due to reliability issues and because the ACS estimates are only available for five-year ranges, not the single years required by the MICAs.

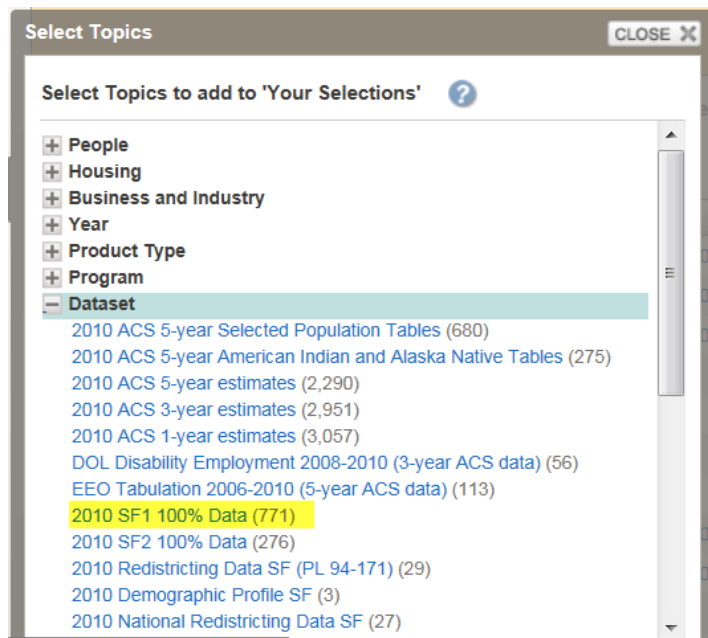
*Where can I find the most recent population totals for my ZIP Code?*

Some private companies generate ZIP Code population estimates for intercensal years (e.g., 2001-2009) and make these estimates available for a fee. The U.S. Census Bureau provides free population counts for decennial census years (e.g., 2000, 2010) through the American FactFinder tool, which is available at <http://factfinder.census.gov>. The instructions below illustrate how to find the 2010 population count for ZIP Code 63301.

The screenshot shows the American FactFinder website interface. At the top, there is a navigation bar with links: MAIN, COMMUNITY FACTS, GUIDED SEARCH, ADVANCED SEARCH (highlighted), and DOWNLOAD CENTER. Below the navigation bar, a search bar is visible with a magnifying glass icon. The main content area is titled "Search - Use the options on the left (topics, geographies, ...) to narrow your search results". On the left side, there is a "Your Selections" box showing "Your Selections' is empty". Below this, there are four filter categories: Topics (age, income, year, dataset, ...), Geographies (states, counties, places, ...), Race and Ethnic Groups (race, ancestry, tribe), and Industry Codes (NAICS industry, ...). On the right side, there is a search form with two input fields: "topic or table name" and "state, county or place (optional)". Below these fields are radio buttons for "topics", "race/ancestry", "industries", and "occupations". A "GO" button is next to the "state, county or place" field. Below the search form, there is a section titled "To search for tables and other files in American FactFinder:" with three numbered steps: 1. Enter search terms and an optional geography and click GO. 2. Next, select Geographies (states, counties, cities, towns, etc.). 3. Select one or more Search Results and click View.

After arriving at the FactFinder site, select Advanced Search on the menu bar at the top of the screen. This opens the FactFinder query page. The filter options along the left side of the page can be used to select the desired dataset and geography.

The most recent decennial ZIP Code counts are included in 2010 Summary File 1. To search this file, click the blue Topics button on the left toolbar. When the Select Topics menu opens, click the plus (+) sign next to Year and choose “2010.” Click the minus (-) sign next to Year to collapse the list. Then click the plus sign next to Dataset and choose “2010 SF1 100% Data,” which is highlighted in yellow to the right. Close the Select Topics window.



Select from: ☒ most requested geographic types ☐ all geographic types

Select a geographic type:  
..... 5-Digit ZIP Code Tabulation Area - 860

Select a state:  
Missouri

Select one or more geographic areas and click **Add to Your Selections**:

- ZCTA5 63141
- ZCTA5 63143
- ZCTA5 63144
- ZCTA5 63146
- ZCTA5 63147
- ZCTA5 63155
- ZCTA5 63301**
- ZCTA5 63303
- ZCTA5 63304
- ZCTA5 63330

**ADD TO YOUR SELECTIONS**

To limit the results to the ZIP Code(s) of interest, click the blue Geography box on the left toolbar. In the “Select a geographic type” menu, select “5-Digit ZIP Code Tabulation Area – 860.” In the second box, select “Missouri” for the state. The third box should now contain valid ZIP Code Tabulation Areas, or ZCTAs, for Missouri. For this example, choose “63301,” which is located in St. Charles. Click the “Add to your selections” button and close the Select Geographies menu.

All of the selections from the preceding steps should be shown in the Your Selections box near the upper left corner of the query page, and a specific table can now be selected from the results list. For this example, click the box next to “QT-P1, Age Groups and Sex: 2010.” Then click View at the top or bottom of the screen.

**Your Selections**

Search using...

Year: 2010

Dataset: 2010 SF1 100% Data

5-Digit ZCTA: ZCTA5 63301

[clear all selections and start a new search](#)

Search using the options below:

**Topics**  
(age, income, year, dataset, ...)

**Geographies**  
(states, counties, places, ...)

**Race and Ethnic Groups**  
(race, ancestry, tribe)

**Industry Codes**

**Search Results: 1-25 of 341 tables and other products match 'Your Selections'**

topic or table name state, county or...

Refine your search results:

topics race/ancestry industries

1 Selected: [View](#) [Download](#) [Compare](#) [Clear All](#)

| ID                                        | Table, File or Document Title                                   |
|-------------------------------------------|-----------------------------------------------------------------|
| <input type="checkbox"/> DP-1             | Profile of General Population and Housing Characteristics: 2010 |
| <input type="checkbox"/> QT-H1            | General Housing Characteristics: 2010                           |
| <input type="checkbox"/> QT-H2            | Tenure, Household Size, and Age of Householder: 2010            |
| <input type="checkbox"/> QT-H3            | Household Population and Household Type by Tenure: 2010         |
| <input checked="" type="checkbox"/> QT-P1 | Age Groups and Sex: 2010                                        |



Below is a section of the QT-P1 table for ZCTA 63301.

Geography: ZCTA5 63301 ▾

| Age               | Number     |        |        | Percent    |       |        | Males per 100 females |
|-------------------|------------|--------|--------|------------|-------|--------|-----------------------|
|                   | Both sexes | Male   | Female | Both sexes | Male  | Female |                       |
| Total population  | 48,514     | 23,886 | 24,628 | 100.0      | 100.0 | 100.0  | 97.0                  |
| Under 5 years     | 2,748      | 1,440  | 1,308  | 5.7        | 6.0   | 5.3    | 110.1                 |
| 5 to 9 years      | 2,482      | 1,209  | 1,273  | 5.1        | 5.1   | 5.2    | 95.0                  |
| 10 to 14 years    | 2,552      | 1,339  | 1,213  | 5.3        | 5.6   | 4.9    | 110.4                 |
| 15 to 19 years    | 3,769      | 1,887  | 1,882  | 7.8        | 7.9   | 7.6    | 100.3                 |
| 20 to 24 years    | 5,024      | 2,634  | 2,390  | 10.4       | 11.0  | 9.7    | 110.2                 |
| 25 to 29 years    | 3,573      | 1,850  | 1,723  | 7.4        | 7.7   | 7.0    | 107.4                 |
| 30 to 34 years    | 2,982      | 1,564  | 1,418  | 6.1        | 6.5   | 5.8    | 110.3                 |
| 35 to 39 years    | 2,590      | 1,354  | 1,236  | 5.3        | 5.7   | 5.0    | 109.5                 |
| 40 to 44 years    | 2,788      | 1,385  | 1,403  | 5.7        | 5.8   | 5.7    | 98.7                  |
| 45 to 49 years    | 3,397      | 1,682  | 1,715  | 7.0        | 7.0   | 7.0    | 98.1                  |
| 50 to 54 years    | 3,585      | 1,755  | 1,830  | 7.4        | 7.3   | 7.4    | 95.9                  |
| 55 to 59 years    | 3,074      | 1,473  | 1,601  | 6.3        | 6.2   | 6.5    | 92.0                  |
| 60 to 64 years    | 2,592      | 1,170  | 1,422  | 5.3        | 4.9   | 5.8    | 82.3                  |
| 65 to 69 years    | 2,222      | 1,043  | 1,179  | 4.6        | 4.4   | 4.8    | 88.5                  |
| 70 to 74 years    | 1,677      | 755    | 922    | 3.5        | 3.2   | 3.7    | 81.9                  |
| 75 to 79 years    | 1,372      | 602    | 770    | 2.8        | 2.5   | 3.1    | 78.2                  |
| 80 to 84 years    | 1,098      | 432    | 666    | 2.3        | 1.8   | 2.7    | 64.9                  |
| 85 to 89 years    | 668        | 222    | 446    | 1.4        | 0.9   | 1.8    | 49.8                  |
| 90 years and over | 321        | 90     | 231    | 0.7        | 0.4   | 0.9    | 39.0                  |

*If I am able to find population figures for a ZIP Code, could I create my own rate?*

ZIP Code rates can be calculated using the frequencies produced in MICA and ZIP Code population figures from the U.S. Census Bureau or other sources. As explained above, crude rates are calculated by dividing the frequency by the population at risk, which is usually the population total. To calculate an age-specific rate for any of the age groups listed in the table above, gather the corresponding number of events for that age group from MICA. For example, to determine the 2010 total hospitalization rate for residents ages 20-24 years in ZIP Code 63301, we would generate the following table using the Inpatient Hospitalization Any ZIP MICA.

| Inpatient Hospitalization Discharges: Residents of ZIP code(s)<br>63301 |                          |
|-------------------------------------------------------------------------|--------------------------|
| Diagnosis: = All diagnoses                                              |                          |
|                                                                         | Year                     |
|                                                                         | 2010                     |
| Age of Patient                                                          | Number of Discharges     |
| 15 to 17                                                                | 95                       |
| 18 to 19                                                                | 132                      |
| 20 to 24                                                                | 282                      |
| Total for Selection                                                     | 509                      |
| <a href="#">Rotate</a>                                                  | <a href="#">Download</a> |

*Step 1: Age*  
*Step 2: Year*  
*Step 3: Default Selections*  
*Step 4: 63301*  
*Step 5: 2010*  
*Step 6: All Diagnoses*  
*Step 7: Frequencies Only*  
*Drill down on age group 15 to 24*

**NOTE:** 2010 has been selected as the year in this example to match the population count from 2010. **If a ZIP Code rate is needed for an intercensal year (e.g., 2005) and intercensal ZIP Code population estimates are not available, BHCADD recommends using the frequency from the selected year and reverting to the prior decennial Census for the denominator.**

Now all of the numbers needed to calculate the hospitalization rate for residents ages 20-24 years in ZIP Code 63301 have been collected. The number of hospitalizations can be divided by the population count and multiplied by a constant. For hospitalizations, the constant used in MICA is usually 10,000.

$$282 \text{ hospitalizations} \div 5,024 \text{ residents} = 0.05613 \times 10,000 = 561.3$$

There are 561.3 hospitalizations for every 10,000 residents ages 20-24 years in ZIP Code 63301. According to the Inpatient Hospitalization MICA, St. Charles County's rate for the same time period was 840.8 per 10,000. Thus, the 63301 ZIP Code portion of the county has a lower hospitalization rate than the overall county.

In this example, rates for a specific age group (residents ages 20-24) were used because age-specific rates do not usually require age adjusting. The simple crude rate calculation shown above is appropriate for age-specific rates. **The rate for all ages, on the other hand, should usually be age adjusted when outcomes depend heavily on the age of the population at risk.** This is the case for hospitalizations as well as emergency room (ER) visits and deaths. An area with an older population typically has higher crude hospitalization, ER visit, and death rates simply because older people are more likely to require hospital/ER services or die. When rates are shown in the Inpatient Hospitalization, Emergency Room, and Death MICAs, age-adjusted rates are shown by default for the total population. It is not usually appropriate to make comparisons between total population rates in different areas or over time unless age-adjusted rates are used. Age adjusting the rate for the total population of the ZIP Code is possible using additional steps that will be described in the next newsletter.

#### References:

<sup>1</sup> Austin, D. F., and Werner, S.B. (1974). *Epidemiology for the Health Sciences: A Primer on Epidemiologic Concepts and Their Uses*. Springfield, IL: Charles C. Thomas.

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## Practice Exercise

Many of you have asked for additional exercises such as the one below so that you can practice the skills you learned at the MICA trainings. If you would like to check your work, a link to the answer key is provided at the bottom of this section.

As a staff member at the Phelps County Health Department, you eagerly scan each MICA newsletter to discover better ways to track health status in your county. After reading about the MAP program in the Spotlight article on Belinda Heimericks, you decide to explore data on the impact of heart disease and stroke in Phelps County.

1. According to the Heart Disease Profile, what is the frequency and rate of hospitalizations due to heart disease in Phelps County? Which years of data were included in this statistic?  

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2. What were the total charges for hospital utilization due to diseases of the heart?  

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3. What percentage of adult residents in the Central Region, which contains Phelps County, are estimated to have incorrectly answered survey questions about the signs and symptoms of heart attack? (The source of this indicator is the Behavioral Risk Factor Surveillance System, which does not provide county-level data. The regional percentage is provided on county-level Profiles as a proxy.) Is this statistically significantly different from the state percentage?  

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4. According to the Stroke Profile, what is the Phelps County death rate from strokes and other cerebrovascular diseases? How does the county rate compare to the state rate?  

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5. Use the Comparison Bar Graphs feature to compare the stroke/other cerebrovascular disease hospitalization rate in Phelps County to the rates of its neighboring counties – Crawford and Pulaski. How does Phelps County compare to Crawford and Pulaski? Do any of the counties have a rate that is statistically significantly different from the state rate?  

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Visit <http://health.mo.gov/data/mica/MICA/solutions.html> to check the solution.

## Final Thoughts – Holiday Edition

BHCADD is a festive group when it comes to any holiday. Several staff dressed up for Halloween ...



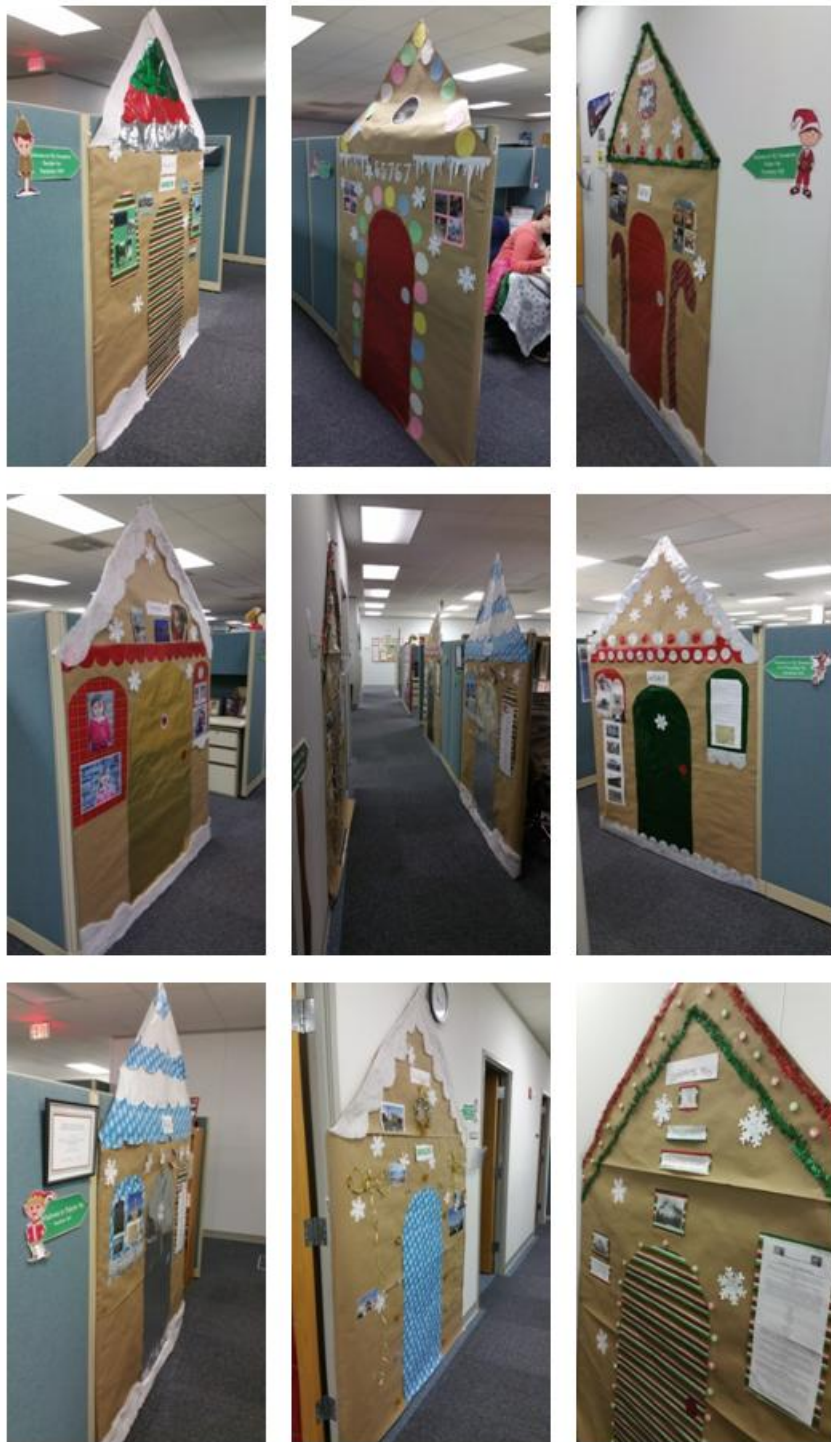
At left: Whitney Coffey (monkey), Andrew Hunter (pirate), Patricia Tighe (witch), and Evan Mobley (*The Office*'s Dwight Schrute – who may look familiar to past training attendees); At right: Dwight Schrute bobblehead

... and all of the full-time staff participated in the Division of Community and Public Health's annual holiday decorating contest. Over the course of a few weeks, Santa's Statistics Workshop (also known as the Bureau of Holiday Cheer Assessment and December Decorations, or BHCADD) built "A Hometown Christmas" village consisting of eight elf houses. Each elf house featured statistics about the resident's hometown. For our efforts, we received Honorable Mention (basically, second place) for Best Unit. We hope that our readers had as much fun during the holiday season as we did!



Left to right: David Litchfield, Whitney Coffey, Becca Mickels, Patricia Tighe, and Doug Phillips

## A Hometown Christmas



Left to right, beginning at the top: Evan Mobley – Peculiar, MO; Whitney Coffey – Urbana, MO; Andy Hunter – Butler, MO; Doug Phillips – Memphis, TN; View of the BHCADD Hallway; Patricia Tighe – New Bloomfield, MO; David Litchfield – Palmyra, MO; Bob Patterson – Fort Collins, CO; and Becca Mickels – Clarksburg, MO



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## About the MICA User Group Newsletter

The MICA User Group Newsletter was created in response to user requests for communication on updates to the MICA system, descriptions of new features, additional practice exercises, announcements of training opportunities, and any other new information about data that might help them perform their jobs more efficiently.

Newsletters will be published on a quarterly basis. If you have ideas for content, please send them to [Andrew.Hunter@health.mo.gov](mailto:Andrew.Hunter@health.mo.gov) or [Becca.Mickels@health.mo.gov](mailto:Becca.Mickels@health.mo.gov). We would especially like to feature stories describing your success at completing projects or obtaining grants using the MICA tools as well as interviews with public health professionals about your duties and how you use MICA to accomplish them.

Past issues are available at <http://health.mo.gov/data/mica/MICA/newsletters.html>.

Contributors:

Andy Hunter, Becca Mickels, Whitney Coffey, and Evan Mobley

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## How to Sign Up or Opt Out

If you have enjoyed this newsletter, please feel free to share it with your colleagues and community partners. We encourage them to sign up for the MICA User Group by sending an e-mail to [Andrew.Hunter@health.mo.gov](mailto:Andrew.Hunter@health.mo.gov) or [Becca.Mickels@health.mo.gov](mailto:Becca.Mickels@health.mo.gov) with the subject line MICA User Group. This will let us know to send newsletters to them directly so they do not miss any information. Also, we may occasionally distribute time-sensitive information on topics such as training opportunities via e-mail if the newsletter is not scheduled for publication prior to a registration deadline. Finally, the MICA User Group list helps us track the types of organizations using the tools, which is one of our performance measures.

If you would like to opt out of the MICA User Group, please send an e-mail with Unsubscribe in the subject line to [Becca.Mickels@health.mo.gov](mailto:Becca.Mickels@health.mo.gov). PLEASE NOTE: Depending on your position title, you may still receive other types of e-mail messages from us. For example, we are requested to send training information to all LPHA Administrators, even if they have unsubscribed from the MICA User Group.

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## Contact Information

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